

## Quiz

1. The mean of the dataset  $\{-4, -2, 0, 7, 9, x, 2x, 3x\}$  is 5. Find  $x$ .
2. Find the IQR of the dataset formed from the first 9 terms of the sequence that starts at 1 and follows the recursive relationship  $x_{k+1} = x_k$ .
3. Which of the following datasets has the smallest variance?
  - (a)  $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$
  - (b)  $\{-5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5\}$
  - (c)  $\{0, 0, 0, 0, 0, 10, 10, 10, 10, 10\}$
  - (d)  $\{9, 9, 9, 9, 9, 9, 9, 9, 9, 9\}$
  - (e)  $\left\{\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{4}{5}, 1\right\}$
4. Which of the following would not change the standard deviation of a data set?
  - (a) Multiplying every observation by 1.5
  - (b) Adding 1 to every data point
  - (c) Dividing each data point by 10
  - (d) Adding a data point
  - (e) Removing a data point from the middle of the data
5. A bag contains 6 red marbles, 8 blue marbles and 10 green marbles. What is the probability of randomly drawing either a red marble or a green marble?

## Homework

1. The mean of a dataset with 12 elements in it is 76.5. Three more data points are added,  $\{70, 83, 99\}$ . What is the new mean?
2. Which observation in the dataset  $\{15, 16, 28, 19, 22\}$  will have the highest absolute value of the  $z$ -score?
3. The probability that I leave my house late for work is 0.3. The probability that traffic is bad enough to make me late for work is 0.4. About how often (as a percentage) do I make it to work on time?
4. A class has 14 girls and 16 boys. If a math teacher randomly picks 6 students to solve problems on the board, what is the probability that 2 girls and 4 boys will be picked?
5. A fair die is replaced by a die where the probability of rolling a 6 is 0.5 and the rest are 0.1. What is the expected value for the number rolled on this dice?
6. A casino introduces a game where the contestant can choose 1 of 3 doors. The correct door pays \$12 and incorrect pays nothing. How much should the casino charge to play the game if it will be a fair game?